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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MATIN HEENEY,  
STEVEN TIERNEY,  
CLARE BAILEY, and  
IAIN MCCULLOCH

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Appeal 2008-4948  
Application 10/661,812  
Technology Center 1700

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Decided: December 31, 2008

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Before CHUNG K. PAK, THOMAS A. WALTZ, and KAREN M.  
HASTING, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

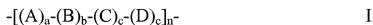
*STATEMENT OF THE CASE*

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1 through 6, 10, 11, 14, and 15. Claims 7 through 9, 12, 13, and 16 through 27, the other pending claims in the

above-identified application, stand withdrawn from consideration by the Examiner. We have jurisdiction pursuant to 35 U.S.C. § 6.

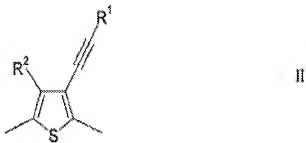
The subject matter on appeal is directed to the so-called “new mono-, oligo- and polymers” used as “field effect transistors and semiconducting components” (Spec. 1, para. [0001]). These “new monomers, oligomers, and polymers” embrace thousands or millions of compounds (Spec. 3-19). Details of these “new monomers, oligomers, or polymers” are recited in representative independent claim 1 reproduced below:

1. A monomer, oligomer or polymer of formula I



wherein

A and C denote independently of each other a group of formula II



R1 is, in each occurrence independently of one another, halogen, or straight chain, branched or cyclic alkyl with 1 to 20 C-atoms, which is unsubstituted, mono- or poly-substituted by F, Cl, Br, I or CN, wherein one or more non-adjacent CH<sub>2</sub> groups are optionally replaced, in each case independently from one another, by -O-, -S-, -NH-, -NR<sup>o</sup>-, -SiR<sup>o</sup>R<sup>o</sup>-, -CO-, -COO-, -OCO-, -OCO-O-, -SO<sub>2</sub>-, -S-CO-, -CO-S-, -CH=CH- or -C=C- in such a manner that O and/or S atoms are not linked directly

to one another, or  $R^1$  is optionally substituted aryl or heteroaryl or P-Sp-,

R2 has one of the meanings of  $R^1$  or is H or  $-C=C-R^3$ ,

R3 has one of the meanings of  $R^1$  or is H,

$R^\circ$  and  $R^{\circ\circ}$  are independently of each other H or alkyl with 1 to 12 C-atoms,

P is a polymerizable or reactive group,

Sp is a spacer group or a single bond,

B and D are independently of each other  $-CX^1=CX^2-$ ,  $-C\equiv C-$ , or optionally substituted arylene or heteroarylene,

$X^1$  and  $X^2$  are independently of each other H, F, Cl or CN,

a, b, c, d are independently of each other 0 or 1, with  $a + b + c + d > 0$ , and wherein in at least one recurring unit  $[(A)_a-(B)_b-(C)_c-(D)_d]$  at least one of a and c is 1, and

n is an integer  $\geq 1$ ,

and wherein the recurring units  $[(A)_a-(B)_b-(C)_c-(D)_d]$  are identical or different, provided that, when b and d are 0 and  $R^2$  is H,  $R^1$  is not optionally substituted aryl or heteroaryl and not  $-\text{Si}R^\circ R^{\circ\circ}-$  substituted alkyl.

The Examiner has rejected claims 1 through 6, 10, 11, 14, and 15 under 35 U.S.C. § 112, first paragraph, as failing to provide written descriptive support for the presently claimed subject matter.<sup>1</sup>

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<sup>1</sup> The Examiner has withdrawn the rejection of claims 1 through 6, 10, 11, 14, and 15 under 35 U.S.C. § 102(b) based on Chem. Abstract 135:153178

Appellants appeal from the Examiner's decision rejecting the claims on appeal under 35 U.S.C. § 112, first paragraph.

*ISSUE*

Does the application disclosure, as originally filed, reasonably convey to one of ordinary skill in the art that the inventors, at the time the application was filed, had possession of the later claimed subgenus resulting from the newly recited negative limitation "provided that when b and d are 0 and R<sup>2</sup> is H, R<sup>1</sup> is not optionally substituted aryl or heteroaryl and not-SiR<sup>0</sup>R<sup>00</sup>-substituted alkyl" in claims 1 through 6, 10, 11, 14, and 15 in violation of the written description requirement of the first paragraph of 35 U.S.C. § 112?

*RELEVANT FACTUAL FINDINGS (FF)*

The Factual Findings set forth below are supported by a preponderance of the evidence:

1. Claim 1 containing the original (not underlined) and newly introduced limitations (underlined) recites as follows:

A monomer, oligomer or polymer of formula I  
-[(A)<sub>a</sub>-(B)<sub>b</sub>-(C)<sub>c</sub>-(D)<sub>d</sub>]<sub>a</sub>-

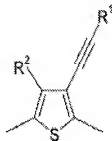
I

wherein

A and C denote independently of each other a group of formula II

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or 130:197214 set forth in the final Office action dated February 2, 2006.  
See Ans. 2.



II

R<sup>1</sup> is in each occurrence independently of one another, H, halogen, or straight chain, branched or cyclic alkyl with 1 to 20 C-atoms, which is unsubstituted, mono- or poly-substituted by F, Cl, Br, I or CN, wherein one or more non-adjacent CH<sub>2</sub> groups are optionally replaced, in each case independently from one another, by -O-, -S-, -NH-, -NR<sup>o</sup>-, -SiR<sup>o</sup>R<sup>oo</sup>-, -CO-, -COO-, -OCO-, -OCO-O-, -SO<sub>2</sub>-, -S-CO-, -CO-S-, -CH=CH- or -C=C- in such a manner that O and/or S atoms are not linked directly to one another, or R<sup>1</sup> denotes optionally substituted aryl or heteroaryl or P-Sp-,

R<sup>2</sup> has one of the meanings of R<sup>1</sup> or ~~denotes~~ is H or -C=C-R<sup>3</sup>,

R<sup>3</sup> has one of the meanings of R<sup>1</sup>,

R<sup>o</sup> and R<sup>oo</sup> are independently of each other H or alkyl with 1 to 12 C-atoms,

P is a polymerizable or reactive group,

Sp is a spacer group or a single bond,

B and D are independently of each other -CX<sup>1</sup>=CX<sup>2</sup>-, -C≡C-, or optionally substituted arylene or heteroarylene,

X<sup>1</sup> and X<sup>2</sup> are independently of each other H, F, Cl or CN,

a, b, c, d are independently of each other 0 or 1, with a + b +

$c + d > 0$ , and wherein in at least one recurring unit  $[(A)_a-(B)_b-(C)_c-(D)_d]$  at least one of  $a$  and  $c$  is 1, and

$n$  is an integer  $\geq 1$ ,

and wherein the recurring units  $[(A)_a-(B)_b-(C)_c-(D)_d]$  are identical or different,

provided that, when  $b$  and  $d$  are 0 and  $R^2$  is H,  $R^1$  is not optionally substituted aryl or heteroaryl and not  $-\text{SiR}^0\text{R}^{\circ\circ}-$  substituted alkyl.  
(Emphasis (Italic) added.)

2. The Examiner found at page 3 of the Answer that the application disclosure, as originally filed, does not provide written descriptive support for the claimed subgenus resulting from the newly recited negative limitation “provided that when  $b$  and  $d$  are 0 and  $R^2$  is H,  $R^1$  is not optionally substituted aryl or heteroaryl and not  $-\text{SiR}^0\text{R}^{\circ\circ}-$  substituted alkyl” in claim 1.
3. Appellants acknowledge at pages 3 through 5 of the Appeal Brief that the application disclosure as originally filed does not provide literal descriptive support for the now claimed subgenus resulting from the newly recited negative limitation “provided that when  $b$  and  $d$  are 0 and  $R^2$  is H,  $R^1$  is not optionally substituted aryl or heteroaryl and not  $-\text{SiR}^0\text{R}^{\circ\circ}-$  substituted alkyl” in claim 1.
4. Appellants assert that page 14, paragraph [0035], of the Specification, as originally filed, reasonably conveys to one of ordinary skill in the art that Appellants, at the time the original application was filed, had possession of the now claimed subgenus resulting from the later submitted new negative limitation “provided that when  $b$  and  $d$  are 0 and  $R^2$  is H,  $R^1$  is not optionally

substituted aryl or heteroaryl and not-SiR<sup>0</sup>R<sup>00</sup>-substituted alkyl” in claim 1.

(See App. Br.3-5 and Reply Br. 1-3.)

3. The Specification, at page 14, paragraph [0035], states:

Further preferred are reactive monomers of formula I or II comprising recurring units selected from the above preferred formulae Ia to Ii, *wherein n is 2*, R1 is alkyl with 1-16 C-atoms that is optionally fluorinated, Ar is 1,4-phenylene, alkoxyphenylene, alkylfluorene, thiophene-2,5-diyl, thienothiophene-2,5-diyl or dithienothiophene-2,6-diyl, X1 and X2 are H, CN or F, and wherein one of R4 and R5 is H, halogen, alkyl with 1-16 C atoms that is optionally fluorinated, or P-Sp-, and the other is P-Sp-. [Emphasis (Italic) added.]

4. Appellants also rely on *In re Johnson*, 558 F.2d 1008 (CCPA 1977) to support a proposition that the generic disclosure of chemical compounds can provide written descriptive support for a later claimed subgenus resulting from the recitation of a new negative limitation excluding some species from the original genus. (See App. Br. 4-5.)

5. Appellants do not argue, much less demonstrate, that the application disclosure, as originally filed, contains a generic disclosure, coupled with extensive examples, fully supportive of the limited genus now claimed. (See App. Br. 4-5 and Reply Br. 1-3.)

6. The application disclosure, as originally filed, provides examples not based on actual experimentation, but based on “analogy to known methods,” which are not relied upon by Appellants to provide written descriptive support for the now claimed subgenus resulting from the newly recited negative limitation. (See Spec. 19-25 and App. Br. and Reply Br. in their entirety.)

*PRINCIPLES OF LAW*

Under 35 U.S.C. § 112, first paragraph:

[t]he test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. [*See In re Kaslow*, 707 F.2d 1366, 1375 (Fed. Cir. 1983).]

Although the later claimed subject matter need not be expressed in *ipsis verbis* in the application disclosure as originally filed, it is nonetheless necessary that the written description of the application, as originally filed, must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed. *In re Gosteli*, 872 F.2d 1008, 1012 (Fed. Cir. 1989); *In re Wertheim*, 541 F.2d 257, 265 (CCPA 1976). “Put another way, one skilled in the art, reading the original disclosure, must immediately discern the limitation at issue in the claims.” *Purdue Pharma. L.P. v. Faulding, Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000), citing *Waldermar Link GmbH & Co. v. Osteonics Corp.*, 32 F.3d 556, 558 (Fed. Cir. 1994).

Whether a description of a genus provides an adequate description of a later claimed subgenus is determined by reference to the “blazemarks” test of *In re Ruschig*, 392 F.2d 990, 994-95 (CCPA 1967). *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1570-71 (Fed. Cir. 1996). As our reviewing court stated in *Purdue Pharma. L.P. v. Faulding, Inc.*, 230 F.3d at 1326-27:

As *Ruschig* makes clear, one cannot disclose a forest in the original application, and then later pick a tree out of the forest and say here is my invention. In order to satisfy the written description requirement, the blaze marks directing the

skilled artisan to that tree must be in the original disclosure. *See id.* at 994-95, 54 C.C.P.A. 1551, 379 F.2d 990, 154 USPQ at 122; *Fujikawa*, 93 F.3d at 1570-71, 39 USPQ2d at 1905; *Martin v. Mayer*, 823 F.2d 500, 505, 3 USPQ2d 1333, 1337 (Fed. Cir. 1987).

The original application containing “a broad and complete generic disclosure, coupled with extensive examples fully supportive of the limited genus now claimed” can also provide written descriptive support for the now claimed subgenus resulting from the recitation of a new negative limitation excluding some species from the original genus. *In re Johnson*, 558 F.2d 1008, 1018 (CCPA 1977). The inquiry as to whether the application disclosure as originally filed provides sufficient “blazemarks” and/or examples directing or reasonably conveying one of ordinary skill in the art to the now claimed subgenus is a factual question that must be assessed on a case-by-case basis. *Purdue Pharma, L.P.*, 230 F.3d at 1323, *citing Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1561 (Fed. Cir. 1991).

#### ANALYSES AND CONCLUSIONS OF LAW

Original claim 1, which directed to a monomer, oligomer or polymer, broadly includes the now claimed subgenus resulting from the recitation of the newly introduced negative limitation “provided that when b and d are 0 and R<sup>2</sup> is H, R<sup>1</sup> is not optionally substituted aryl or heteroaryl and not-SiR<sup>0</sup>R<sup>00</sup>-substituted alkyl” in claim 1. However, as acknowledged by Appellants, the now claimed subgenus resulting from the newly recited negative limitation is not expressed in *ipsis verbis* or literally in the application disclosure as originally filed. Nor are there any guidance, examples, and “blazemarks” in the application disclosure, as originally filed,

directing or reasonably conveying one of ordinary skill in the art to the now claimed subgenus or negative limitation. As correctly found by the Examiner, page 14, paragraph [0035], of the Specification relied upon by Appellants directs one of ordinary skill in the art away from the now claimed subgenus resulting from the newly recited negative limitation as it is directed to a dimer ( $n=2$ ), as opposed to the monomer, trimer or polymer encompassed by the now claimed subgenus. Appellants' preference for a dimer does not reasonably convey to one of ordinary skill in the art that Appellants (inventors) had possession of the now claimed sub-generic monomer, trimer, or polymers.

In reaching the above determination, we note Appellants' reliance on *In re Johnson*. However, we determine that *Johnson* is limited to a situation where the original "application [disclosure] contains a broad and complete generic disclosure, coupled with extensive examples fully supportive of the limited genus now claimed." *Johnson*, 558 F.2d at 1018. There is nothing in the Appeal Brief and the Reply Brief, which indicates that Appellants argue, much less demonstrate, that the examples in the original application disclosure fully support the now claimed subgenus resulting from the newly recited negative limitation in question.

Accordingly, we concur with the Examiner that the application disclosure, as originally filed, does not reasonably convey to one of ordinary skill in the art that the inventors, at the time the application was filed, had possession of the later claimed subgenus resulting from the newly recited negative limitation "provided that when b and d are 0 and  $R^2$  is H,  $R^1$  is not optionally substituted aryl or heteroaryl and not-SiR<sup>0</sup>R<sup>00</sup>-substituted alkyl"

in claims 1 through 6, 10, 11, 14, and 15 in violation of the written description requirement of the first paragraph of 35 U.S.C. § 112.

*ORDER*

The decision of the Examiner is affirmed.

*TIME PERIOD*

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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